Transfer Model Curriculum (TMC) Template for Biology
CCC Major or Area of Emphasis: Biology
TOP Code: 040100
CSU Major(s): Biology
Total Units: 29 *(all units are minimum semester units)*

Template # 2014
Rev. 2: 05/18/2015

In the four columns to the right under the **College Program Requirements**, enter the college's course identifier, title and the number of units comparable to the course indicated for the TMC. If the course may be double-counted with either CSU-GE or IGETC, enter the GE Area to which the course is articulated. To review the GE Areas and associated unit requirements, please go to Chancellor's Office Academic Affairs page, RESOURCE section located at:

http://extranet.cccco.edu/Divisions/AcademicAffairs/CurriculumandInstructionUnit/TransferModelCurriculum.aspx

or the ASSIST website:

http://web1.assist.org/web-assist/help/help-csu_ge.html.

The units indicated in the template are the **minimum** semester units required for the prescribed course or list. All courses must be CSU transferable. ***All courses with an identified C-ID Descriptor must be submitted to C-ID prior to submission of the Associate Degree for Transfer (ADT) proposal to the Chancellor's Office.***

Where no **C-ID Descriptor** is indicated, discipline faculty should compare their existing course to the example course(s) provided in the TMC at:

http://www.c-id.net/degreereview.html

Attach the appropriate ASSIST documentation as follows:

- *Articulation Agreement by Major* (***AAM***) demonstrating lower division preparation in the major at a CSU;
- *CSU Baccalaureate Level Course List by Department* (***BCT***) for the transfer courses; and/or,
- *CSU GE Certification Course List by Area* (***GECC***).

The acronyms ***AAM, BCT,*** and ***GECC*** will appear in **C-ID Descriptor** column directly next to the course to indicate which report will need to be attached to the proposal to support the course's inclusion in the transfer degree. To access ASSIST, please go to http://www.assist.org.

Associate in Science in Biology for Transfer Degree College Name: Santa Rosa Junior College						
TRANSFER MODEL CURRICULUM (TMC)		**COLLEGE PROGRAM REQUIREMENTS**				
Course Title (units)	**C-ID Descriptor**	**Course ID**	**Course Title**	**Units**	**GE Area CSU**	**GE Area IGETC**
REQUIRED CORE: (8-12 units) **Select 1 of 2 options**						
Option 1						
Biology Sequence for Majors (8)	BIOL 135S					
OR						
Option 2						
Cell and Molecular Biology (4) **AND**	BIOL 190	BIO 2.1	Fundamentals of Biology (Cell and Molecular)	5.0	B2, B3	5B, 5C
Organismal Biology (4) **OR** Organismal Biology, Ecology and Evolution (8) **OR**	BIOL 140 **OR** BIOL 130S **OR**					
Zoology/Animal Diversity and Evolution (4)	BIOL 150	BIO 2.2	Fundamentals of Biology (Evolution, Genetics, and Zoology)	5.0	B2, B3	5B, 5C
Botany/Plant Diversity and Ecology (4)	**AND** BIOL 155	AND BIO 2.3	Fundamentals of Biology	5.0	B2,	5B,

			(Botany and Ecology)		B3	5C
LIST A: (21-22 units)						
General Chemistry for Science Majors Sequence A (10)	CHEM 120S	CHEM 1A & CHEM 1B	General Chemistry General Chemistry	5.0 5.0	B1, B3 B1, B3	5A, 5C 5A, 5C
Single Variable Calculus I – Early Transcendentals (4) **OR** Single Variable Calculus I – Late Transcendentals (4) **OR** Calculus for Life and Social Sciences (3)	MATH 210 **OR** MATH 211 **OR** ***AAM***	MATH 1A MATH 15 MATH 16 MATH 25 MATH 27	Calculus, First Course Elementary Statistics Introduction to Mathematical Analysis Precalculus Algebra Precalculus Algebra and Trigonometry	5.0 4.0 4.0 3.0 5.0	B4 B4 B4 B4 B4	2A 2A 2A 2A 2A
Algebra/Trigonometry-Based Physics A (4) **AND** Algebra/Trigonometry-Based Physics B (4) **OR** Calculus-Based Physics for Scientists and Engineers: A (4) **AND** Calculus-Based Physics for Scientists and Engineers: B (4) **OR** Algebra/Trigonometry-Based Physics: AB (8)	PHYS 105 **AND** PHYS 110 **OR** PHYS 205 **AND** PHYS 210 **OR** PHYS 100S	PHYS 20 & PHYS 20L PHYS 21 & PHYS 21L PHYS 40 AND PHYS 42 PHYS 20 & PHYS 20L & PHYS 21 & PHYS 21L	General Physics Lecture Part I General Physics Lab Part I General Physics Lecture Part II General Physics Lab Part II Classical Mechanics for Scientists & Engineers Electricity and Magnetism for Scientists and Engineers General Physics Lecture Part I General Physics Lab Part I General Physics Lecture Part II General Physics Lab Part II	3.0 1.0 3.0 1.0 5.0 4.0 3.0 1.0 3.0 1.0	B1 B3 B1 B3 B1, B3 B1, B3 B1 B3 B1 B3	5A 5C 5A 5C 5A, 5C 5A, 5C 5A 5C 5A 5C
LIST B: Select one (0-4 units) Any course articulated as lower division preparation in the Biology major at a CSU.	***AAM***					
Total Units for the Major:	**29**		**Total Units for the Major:**	36-38		
			Total Double-counted Units (***The transfer GE Area limits must not be exceeded***)		-	9
			***General Education (CSU-GE or IGETC for STEM) Units**		**33**	**31**
			Elective (CSU Transferable) Units		-	0-2
			Total Degree Units (maximum)		**60**	

Commented [LA1]: Department agrees to remove these courses w/ understanding of auto course substitution. Including courses puts major over by 1 unit! Will add note to program regarding these courses.

Commented [LA2]: IGETC for STEM only

NOTES:

1. * This TMC presumes completion of IGETC or CSU-GE Breadth for STEM, allowing for completion of 6 units of non-STEM GE work after transfer.

2. Required Core Options 1 and 2 represent Options 1-4 on the TMC.
3. List B – Additional Major Preparation if possible based on unit limitation and required articulation exists (0-4 units).
   Select one (1) additional course that is articulated as a major preparation at a CSU.